Safety Advisory Committee
October 2, 2015
1:30 – 3:00 PM

Minutes

Committee Member	Representing	Present
V. Potapenko, M. O. Leimer, J. Willen	Human Resources Advisors	
Blodgett, Paul M.	Environment, Health and Safety Division	X
Bluhm, Hendrik	Chemical Sciences Division	
Broughton, Jeff	Computing Sciences Directorate	
Chernowski, John	Facilities Division	X
Christensen, John N.	Earth Sciences Division	X
Dickerhoff, Darryl	Energy Technologies Area	X
Franaszek, Stephen	Genomics Division	
Greiner, Leo	Nuclear Science Division	X
Haber, Carl	Physics Division	
Martin, Michael C.	Advanced Light Source Division	
MacGowan, Betsy	Information Technology Division	
Ravani, Shraddha	Life Sciences Division	X
Sauter, Nicholas	Physical Biosciences Division	
Schmid, Andreas	Materials Sciences Division	X
Seidl, Peter	Accelerator Technology and Applied Physics Division; SAC Chair	X
Thomas, Patricia M.	Safety Advisory Committee Secretary	X
von der Lippe, Henrik	Engineering Division	X

Others Present: Stephanie Collins, Pedro Estacio, Ross Fisher, Jim Floyd, Ellen Ford, Mary Gross, Michael Johnson, Glenn Kubiak, Quang Le, Bob Mueller, Rhett Persaud, Andrew Peterson, Tonya Petty, Scott Taylor, Theresa Triplett, Tammy Welcome, Bill Wells, Marty White

Comments from the Chair – Peter Seidl

There is a Peer Review team in the midst of a review of Chemical Sciences Division, which includes electrical safety and reactive chemicals management. SAC Representatives should talk to their Division Directors and find out who wants to be peer reviewed in FY16. Some Divisions have reorganized recently. Representatives from those Divisions should talk to their leadership and discuss realignment of SAC Representatives, if needed.

EHS Pipeline – Bill Wells

Revision Type	Documents	Program/Policy	Significance	Status
Electrical Safety Program - Major Revision	RPM, ESH Manual	Electrical Safety Program	A	Chapter 8, Manual, and RPM Policy posted 7/15
Work Planning and Control – Phase in	RPM, ESH Manual	Work Authorizations	A	Chapter 6, WPC and RPM Policy posted 7/15
Fire Prevention – Full program re-write	RPM, ESH Manual	Fire Prevention	B	Chapter 12 Fire Prevention posted 8/15; RPM Policy to be updated by SME
Pressure Safety – major revision	RPM, ESH Manual	Pressure Safety	C	Major revision; final input from stakeholders, to be put in editing queue.
Training Program revisions – clarifications and minor changes	RPM, ESH Manual	ESH Training Program/Policy	D	Chapter 24, EHS Training, posted 9/15
Aviation Safety Policy -- New	RPM	Aviation	D	Draft completed. Ready for posting.
Change to Radiation Safety Program – Conversion to Rad Con Manual format	RPM/ESH Manual/Rad Con Manual	Occupational Radiation Safety	D	Program content limited; used as a pass-through to new Rad Con Manual. Rad Con Manual reviewed and approved through RSC and EHS. Program in queue for editing. No new requirements. Target: 12/15
Cranes, Hoisting and Rigging – minor change	ESH Manual	Cranes, Hoisting, and Rigging	E	Posted in Chapter 27, 7/15
Waste Management – WP G. Large Volume and Non-Routine Waste Management	ESH Manual	Waste Management	D	Posted in Chapter 20, Waste Management, 9/15
Fall Protection Program Major Revision	ESH Manual	Fall Protection Program	C	With editing. Changes reflect current practice. SME works closely with users.
ORPS & NTS Reporting Quick Guide	RPM	ES&H – Occurrence Rep.; RPM-PAAA Compliance	D	Final SME & Management Review

Revision Type	Documents	Program/Policy	Significance	Status
Elevated Work Surfaces -- Major Revision	ESH Manual	Elevated Work Surfaces Program	C	With editing. Changes reflect current practice. SME working closely with users.
Laser Safety Program -- Major Revision	ESH Manual	Laser Safety Program	TBD (C)	Laser safety committee has provided input and recommendations; SME is drafting.
Confined Spaces Program -- Major Revision	ESH Manual	Confined Spaces	TBD	Initial development by SME

- Several revised ESH Manual chapters have been posted, including electrical safety, work planning and control, fire safety, training, and cranes and hoists.
- Ross Fisher will discuss the proposed changes to the Aviation Safety program (committee members – see SAC Google Drive folder) DOE Order 440.2(c) requires permits for drone use and procurement controls.

Integrated Safety Management Trends – Jim Floyd

There were four big issues last year: Work Planning and Control, Electrical Safety, Radiation Safety, and Chemical Safety (particularly reactive and pyrophoric chemicals). When we look at the incidents in these areas, there were some common causes: worker qualification and authorization, Activity Lead responsibilities, and change management.

Activity Leads need to take responsibility for evaluating workers' qualifications before authorizing work at the appropriate level. We do not have a defined methodology for providing on-the job training. Oversight must be provided at a level appropriate to the hazard and the worker's qualifications/experience level. Technical knowledge is particularly important in assigning electrical work.

The scope of a work authorization is a safety envelope. When tasks change, the hazards need to be analyzed.

EHS proposes the following approaches to improving safety:

- More focus on the worker and the work, with less emphasis on developing policies and procedures;
- Engagement with the research community to define solutions, with EHS in a supporting role; and
- Senior management engagement.

There will be more discussion on how the Safety Advisory Committee can be engaged in these improvements. The Electrical Safety Committee and Chemical Safety Subcommittee, for example, have been more active. It could be useful to have a committee to work on environmental goals, such as waste minimization/management and energy use reduction. The DOE goals for carbon footprint reduction are based on gross square feet of space. The anticipated power consumption from the new supercomputer facility will be a challenge.

Glenn Kubiak commented that there are both risks and opportunities facing the Lab. The factors identified for safety improvement are common factors for improving other management systems, such as Human Resources, Finance, etc. Lab Management is holding face-to-face quarterly meetings. The Lab Director is holding town hall meetings to communicate important policies, such as electrical safety and radiation safety.

LBNL has experienced a series of radiation safety events, involving working outside the authorized scope of work, people working without formal authorization or current required training, contamination found outside posted Contamination Areas, and a Principal Investigator responsible for Radiological Work Authorization retiring without notice. In response, the Lab Director invited PIs with RWAs to a town hall meeting where recent events were discussed and action items were assigned. PIs were asked to review their work authorizations to ensure the scope is consistent with planned work and discuss the RWA requirements with their workers. The Health Physicists are helping the PIs. The Safety Advisory Committee would like to hear from EHS Radiation Protection Group and the Radiation Safety Committee about these efforts next month.

Electrical Safety – Henrik von der Lippe

The electrical safety policy and manual were signed on July 1. The Qualified Electrical Worker (QEW) levels 1, 2, and 3 have been defined, and about 150 requests for provisional QEW status have been received. The QEW training provided by LBNL will be safety training on how to identify hazards and work safely. It will not be not be technical crafts training on how to build or modify equipment to code. 79% of people applying to become QEWs want to do crafts-type work, but most have insufficient experience or training. Non-crafts researcher QEWs will be able to perform diagnostics, testing, calibration, and lockout/tagout.

It is a Line Management responsibility to ensure people who do crafts work have appropriate technical qualifications, which can be obtained through the union hall, community college, and/or on-the-job training. Trainees must work under the supervision of a crafts QEW who inspects and signs off on their work. QEWs can be qualified to perform particular tasks. Division Safety Coordinators should do some quality control regarding who is applying to become a QEW.

The QEW training program is being developed. There will be 3 courses: basic electrical safety for QEWs, shock protection, and electrical hazard controls. These courses will be the same for crafts and research QEWs.

Aviation Policy – Ross Fisher

While the likelihood of a research aviation accident is low, there could be severe consequences. LBNL's contract, Appendix I (DOE directives), requires approval for any use of air space. A Certificate of Authorization (COA) must be obtained from the Federal Aviation Administration (FAA) for use of Unmanned Aircraft Systems (UAS). The FAA governs all use of balloons, kites, and drones. Use of Commercial Aviation Services (CAS) and other government managed manned aircraft requires DOE and LBNL approvals (DOE Accepted Operator List, insurance, and procurement authorization). LBNL procurement is the hold point for requests for aviation services. Ross Fisher is the LBNL aviation point of contact, and he will be notified so he can help the requester. Approvals can take a long time, so advance planning is important. Ross has been working on a COA with Earth Sciences for geophysical data collection in Colorado for a year and a half. Other requests have included use of commercial aircraft for photography and deliveries of equipment. The draft policy is in the EHS pipeline. Personal/recreational use of aircraft on LBNL property or project locations is not allowed.

Emergency Management – Tonya Petty

Emergency Management is our last line of defense against operational emergencies, which can include facility-level hazards such as structure fires and hazardous materials releases and regional hazards such as wildland fires and earthquakes. Earthquakes are of particular concern because LBNL's main site is on the Hayward Fault. To prepare for earthquakes, LBNL will be participating in the Great Shakeout earthquake drill at 10:15 AM on 10/15/15. The drill is a collaborative effort between Protective Services and Building Emergency Teams. The focus of the drill in on LBNL personnel's ability to implement protective measures (drop, cover, hold on, evacuate and report to emergency assembly areas). The drill is being publicized by signs, banners, Level 1 announcements, Today at Berkeley Lab articles, and reminder cards.

Other upcoming events and efforts include:

- Ongoing development of emergency/disaster teams, including Building Emergency Teams, Community Emergency Response Teams, Damage Assessment Teams, Medical Emergency Response Teams, and the Emergency Management Team;
- October 7 smokehouse seminar for Building Emergency Teams;
- October 16 information booth at the LBNL runaround;
- November/December In Case of Crisis information system;
- January/February Emergency Response Organization training;
- Spring (Mar-May) Safety, Security, and Sustainability Fair;
- July/August annual exercise.

For further information, contact Emergency Management at ext. 4394 or email emergencymanagement@lbl.gov

John Christensen asked how the Lab is planning for the potential impacts of the predicted "El Nino" storms. There is a storm response team of key Facilities, Emergency Management and EHS personnel. This effort will be communicated.

Issues Management – Theresa Triplett

Issues Management is a program with processes designed to help solve problems. It helps LBNL to comply with requirements. LBNL uses a risk management approach to tailor analyses to meet business needs. The Issues Management program is being described in a consolidated program manual includes tools for evaluating the severity of risks, rules about what type of risks can be accepted and who can make risk acceptance decisions, and guidance on development of effective corrections actions that can be implemented. The Lessons Learned program is being integrated with Work Planning and Control to communicate important lessons to people working with similar hazards. Trend Codes are being revised to facilitate more useful analyses.

Issues must be identified correctly in order to be addressed effectively. Risk severity analysis helps us prioritize the importance of problems based on likelihood of occurrence and operational risk. Based on the risk severity, apparent cause analysis (low/medium risk) or root cause analysis (medium/high risk) may be selected to determine the causes of the incident or condition. For problems that cannot be solved immediately or completely, there will be some residual risk. Risk acceptance decisions can only be made by management: Line management for low risk, Division management for medium risk, and Associate Lab Directors/Lab Management for high risk.

Corrective actions must follow the SMART criteria and corrective actions for high-risk issues must be developed using SMART Analysis. Corrective action planning assigns responsibility to persons who can perform the actions and

accountability to management who can commit resources. The people and organizations affected are identified. A prioritized implementation plan can be developed based on an assessment of costs and risks.

The meeting was adjourned at 3:00 PM
Respectfully submitted, Patricia M. Thomas, SAC Secretary